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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,302	07/31/2001	John David Sarlay	IEX 2051000	2503

7590

01/07/2003

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EXAMINER

BACHNER, REBECCA M

ART UNIT

PAPER NUMBER

3623

DATE MAILED: 01/07/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/919,302

Applicant(s)

SARLAY ET AL.

Examiner

Rebecca M Bachner

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 July 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Detailed Action

This is a first office action on the merit. Claims 1-36 are pending.

Claim Objections

1. Claim 24 objected to because of the following informalities: Claim 24, claims the apparatus of claim 25. According to the other claim structure, the applicant probably meant for claim 24 to depend upon the apparatus of claim 23. Therefore, the claim 24 will be interpreted to depend upon claim 23 by the examiner and appropriate correction is required.

Claim Rejections - 35 USC § 101

2. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 1-36 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. For a claimed invention to be statutory, the claimed invention must be within the technological arts. Mere ideas in the abstract that do not apply, involve, use, or advance the technological arts fail to promote the "progress of science and the useful arts" and therefore are found to be non-statutory subject matter. For a process claim, the recited process must somehow apply, involve, use, or advance the technological arts.

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In the present case, the claims do not recite that the forecasted contact staffing requirement system must be implemented on a computer.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. As per claim 1, Blue Pumpkin discloses a method of forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the method comprising the steps of:

Forecasting the staffing requirement necessary to handle the propagated forecasted contacts received (see page 4, paragraphs 2-5, the staffing requirements are forecasted).

Blue Pumpkin discloses that the historical information is propagated to determine future forecasts for a specific period of time (see page 5, paragraph 6). Blue Pumpkin does not explicitly disclose propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods. However, it is old and well known in the art to propagate the forecasted contacts in proportion to a propagation value for a certain length of time as this is how forecasts are created.

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Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to propagate the forecasted contacts as it allows Blue Pumpkin to accurately predict the number of forecasts received.

As per claim 7, Blue Pumpkin discloses a method of forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the method comprising the steps of:

Determining whether the contact type is an immediate contact type or a non-immediate contact type (see page 10, paragraphs 1 and 4-5, and page 11, paragraph 3, Blue Pumpkin determined if the contact center receives an e-mail or a telephone call);

Upon a determination that the contact type is an immediate contact type, calculating the staffing requirement in order to resolve the forecasted contacts within a predetermined amount of time (see page 12, paragraphs 3-5, the staffing requirements is determined to resolve the forecasted contacts within a predetermined period of time); and

Upon a determination that the contact type is a non-immediate contact type, calculating the staffing requirement by performing the substeps of:

Calculating the staffing requirement necessary to handle the propagated forecasted contacts received (see page 12, paragraphs 3-5, the staffing requirements are calculated to handle the forecasted contacts).

Blue Pumpkin discloses that the forecasted contracts are propagated for a set period of time in order to determine the staffing requirement schedules (see page 12,

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paragraphs 3-5) and historical information is propagated to determine future forecasts for a specific period of time (see page 5, paragraph 6). Blue Pumpkin does not explicitly disclose propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods. However, it is old and well known in the art to propagate the forecasted contacts in proportion to a propagation value for a certain length of time as this is how forecasts are created. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to propagate the forecasted contacts as it allows Blue Pumpkin to accurately predict the number of forecasts received.

As per claim 13, Blue Pumpkin discloses a method for determining the total, non-immediate, multimedia contacts in a period within a range, comprising, for each contact type and for each period in the range, wherein the period is a current period and each period which precedes the current period is a past period, the step of determining whether the current period can received allocations and, upon a determination that the current period can receive allocations, performing for each past period affecting the current period.

Blue Pumpkin discloses calculating the staffing requirement necessary to handle the propagated forecasted contacts received (see page 12, paragraphs 3-5, the staffing requirements are calculated to handle the forecasted contacts). Blue Pumpkin also discloses that the forecasted contracts are propagated for a set period of time in order to determine the staffing requirement schedules (see page 12, paragraphs 3-5) and

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historical information is propagated to determine future forecasts for a specific period of time (see page 5, paragraph 6). Blue Pumpkin does not explicitly disclose calculating the "total contacts to propagate from past period" as the product of a forecasted "contacts received" from the past period and a "service percent" for the past period; calculating a "contacts to propagated to current period" as the product of the "total contacts to propagate from past period" and the quotient of a propagation value of the current period divided by the sum of a propagation values for all periods affected by the past period; and summing the "contacts propagated to current period" into the "total contacts to handle in current period" for all contact types. However, all of these steps mentioned above are necessary to determine the staffing requirements of the various types of contacts. It is old and well known in the art of call centers to propagate past and current period values to forecast future contact values. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to determine a forecasted value for contacts using propagation as it allows Blue Pumpkin to accurately predict the number of forecasts received.

As per claim 14, Blue Pumpkin discloses an apparatus for forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the apparatus comprising:

Means for forecasting the staffing requirement necessary to handle the propagated forecasted contacts received (see page 4, paragraphs 2-5, the staffing requirements are forecasted).

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Blue Pumpkin discloses that the historical information is propagated to determine future forecasts for a specific period of time (see page 5, paragraph 6). Blue Pumpkin does not explicitly disclose a means for propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods. However, it is old and well known in the art to propagate the forecasted contacts in proportion to a propagation value for a certain length of time as this is how forecasts are created. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to propagate the forecasted contacts as it allows Blue Pumpkin to accurately predict the number of forecasts received.

As per claim 20, Blue Pumpkin discloses an apparatus for forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the apparatus comprising:

Means for determining whether the contact type is an immediate contact type or a non-immediate contact type(see page 10, paragraphs 1 and 4-5, and page 11, paragraph 3, Blue Pumpkin determined if the contact center receives an e-mail or a telephone call);

Upon a determination that the contact type is an immediate contact type, means for calculating the staffing requirement in order to resolve the forecasted contacts within a predetermined amount of time (see page 12, paragraphs 3-5, the staffing requirements is determined to resolve the forecasted contacts within a predetermined period of time); and

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Upon a determination that the contact type is a non-immediate contact type, means for calculating the staffing requirement by performing the substeps of:

Means for calculating the staffing requirement necessary to handle the propagated forecasted contacts received (see page 12, paragraphs 3-5, the staffing requirements are calculated to handle the forecasted contacts).

Blue Pumpkin discloses that the forecasted contracts are propagated for a set period of time in order to determine the staffing requirement schedules (see page 12, paragraphs 3-5) and historical information is propagated to determine future forecasts for a specific period of time (see page 5, paragraph 6). Blue Pumpkin does not explicitly disclose a means for propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods. However, it is old and well known in the art to propagate the forecasted contacts in proportion to a propagation value for a certain length of time as this is how forecasts are created. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to propagate the forecasted contacts as it allows Blue Pumpkin to accurately predict the number of forecasts received.

As per claim 25, Blue Pumpkin discloses an apparatus for calculating the total, non-immediate, multimedia contacts in a period within a range, comprising, for each contact type and for each period in the range, wherein the period is a current period and each period which precedes the current period is a past period, the apparatus comprising means for determining whether the current period can receive allocations

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and, upon a determination that the current period can receive allocations, for each past period affecting the current period:

Blue Pumpkin discloses calculating the staffing requirement necessary to handle the propagated forecasted contacts received (see page 12, paragraphs 3-5, the staffing requirements are calculated to handle the forecasted contacts). Blue Pumpkin also discloses that the forecasted contracts are propagated for a set period of time in order to determine the staffing requirement schedules (see page 12, paragraphs 3-5) and historical information is propagated to determine future forecasts for a specific period of time (see page 5, paragraph 6). Blue Pumpkin does not explicitly disclose a means for calculating a "total contacts to propagate from past period" as the product of a forecasted "contacts received" from the past period and a "service percent" for the past period; means for calculating a "contacts to propagated to current period" as the product of the "total contacts to propagate from past period" and the quotient of a propagation value of the current period divided by the sum of a propagation values for all periods affected by the past period; and means for summing the "contacts propagated to current period" into the "total contacts to handle in current period" for all contact types.

However, all of these steps mentioned above are necessary to determine the staffing requirements of the various types of contacts. It is old and well known in the art of call centers to propagate past and current period values to forecast future contact values.

Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to determine a forecasted value for contacts using propagation as it allows Blue Pumpkin to accurately predict the number of forecasts received.

As per claim 26, Blue Pumpkin discloses a computer program product for forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

Computer program code for forecasting the staffing requirement necessary to handle the propagated forecasted contacts received (see page 4, paragraphs 2-5, the staffing requirements are forecasted).

Blue Pumpkin discloses that the historical information is propagated to determine future forecasts for a specific period of time (see page 5, paragraph 6). Blue Pumpkin does not explicitly disclose a computer program code for propagating the forecasted contacts received in proportion to a propagation value assigned to each of a predetermined number of periods. However, it is old and well known in the art to propagate the forecasted contacts in proportion to a propagation value for a certain length of time as this is how forecasts are created. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to propagate the forecasted contacts as it allows Blue Pumpkin to accurately predict the number of forecasts received.

As per claim 31, Blue Pumpkin a computer program product for forecasting a staffing requirement necessary to handle forecasted contacts received of a contact type,

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the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

Computer program code for determining whether the contact type is an immediate contact type or a non-immediate contact type (see page 10, paragraphs 1 and 4-5, and page 11, paragraph 3, Blue Pumpkin determined if the contact center receives an e-mail or a telephone call);

Upon a determination that the contact type is an immediate contact type, computer program code for calculating the staffing requirement in order to resolve the forecasted contacts within a predetermined amount of time (see page 12, paragraphs 3-5, the staffing requirements is determined to resolve the forecasted contacts within a predetermined period of time); and

Upon a determination that the contact type is a non-immediate contact type, computer program code for calculating the staffing requirement by performing the substeps of:

Computer program code for calculating the staffing requirement necessary to handle the propagated forecasted contacts received (see page 12, paragraphs 3-5, the staffing requirements are calculated to handle the forecasted contacts).

Blue Pumpkin discloses that the forecasted contracts are propagated for a set period of time in order to determine the staffing requirement schedules (see page 12, paragraphs 3-5) and historical information is propagated to determine future forecasts for a specific period of time (see page 5, paragraph 6). Blue Pumpkin does not explicitly disclose a computer program code for propagating the forecasted contacts received in

proportion to a propagation value assigned to each of a predetermined number of periods. However, it is old and well known in the art to propagate the forecasted contacts in proportion to a propagation value for a certain length of time as this is how forecasts are created. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to propagate the forecasted contacts as it allows Blue Pumpkin to accurately predict the number of forecasts received.

As per claim 36, Blue Pumpkin discloses a computer program product for calculating the total, non-immediate, multimedia contacts in a period within a range, for each contact type and for each period in the range, wherein the period is a current period and each period which precedes the current period is a past period, the computer program product having a medium with a computer program embodied thereon, the computer program comprising:

Blue Pumpkin discloses calculating the staffing requirement necessary to handle the propagated forecasted contacts received (see page 12, paragraphs 3-5, the staffing requirements are calculated to handle the forecasted contacts). Blue Pumpkin also discloses that the forecasted contracts are propagated for a set period of time in order to determine the staffing requirement schedules (see page 12, paragraphs 3-5) and historical information is propagated to determine future forecasts for a specific period of time (see page 5, paragraph 6). Blue Pumpkin does not explicitly disclose a computer program code for determining whether the current period can receive allocations and, upon a determination that the current period can receive allocations, performing for

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each past period affecting the current period; computer program code calculating a "total contacts to propagate from past period" as the product of a forecasted "contacts received" from the past period and a "service percent" for the past period; a computer program code for calculating a "contacts to propagated to current period" as the product of the "total contacts to propagate from past period" and the quotient of a propagation value of the current period divided by the sum of a propagation values for all periods affected by the past period; and a computer program code for summing the "contacts propagated to current period" into the "total contacts to handle in current period" for all contact types. However, all of these steps mentioned above are necessary to determine the staffing requirements of the various types of contacts. It is old and well known in the art of call centers to propagate past and current period values to forecast future contact values. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to determine a forecasted value for contacts using propagation as it allows Blue Pumpkin to accurately predict the number of forecasts received.

As per claims 2, 8, 15, 21, 27, and 32, Blue Pumpkin discloses claims 1, 7, 14, 20, 26, and 31. Blue Pumpkin does not explicitly disclose wherein the propagation values are assigned to achieve at least one of a front-weighted curve, a back-weighted curve, a bell curve, flat curve, a multi-level service goal, an average speed of answer, and a customer distribution. However, it is old and well known in the art to use a

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propagation value that achieves a type of curve. The curves mentioned above are old and well known in the art of statistical analysis and statistical analysis on historical data is commonly used in call centers. For example, A First Course in Business Statistics by McClave and Benson teaches a bell (or normal) curve distribution (see pages 207-209). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to use a propagation value that achieves a specific type of curve as it allows Blue Pumpkin to more easily analyze the data and determine an accurate forecast of future contacts.

As per claims 3, 9, 16, 22, 28, and 33, Blue Pumpkin discloses claims 1, 7, 14, 20, 26, and 31, wherein the step of propagating the forecasted contacts received. Blue Pumpkin discloses calculating the staffing requirement necessary to handle the propagated forecasted contacts received (see page 12, paragraphs 3-5, the staffing requirements are calculated to handle the forecasted contacts). Blue Pumpkin also discloses that the forecasted contracts are propagated for a set period of time in order to determine the staffing requirement schedules (see page 12, paragraphs 3-5) and historical information is propagated to determine future forecasts for a specific period of time (see page 5, paragraph 6). Furthermore, Blue Pumpkin discloses a multimedia contact center where various types of contacts are received (see page 10, paragraphs 1 and 4-5, and page 11, paragraph 3). Blue Pumpkin does not explicitly disclose determining which periods can receive allocations for the contact type, each period being assigned a propagation value; and allocating the forecasted contacts received to

the current period by the substeps of: summing the propagation values from each period that can receive allocations; calculating "contacts to propagated from the past period" as the product of the forecasted contacts received for the past period and a service goal for the past period; calculating "contacts to propagate to the current period" as the product of the "contacts to propagate from the past period: and the quotient of the propagation value of the current period divided by the sum of the propagation values; and allocating the "contacts to propagate to the current period" to the current period. However, all of these steps are needed to forecast the contacts. It is old and well known to propagate, calculate, and sum values to determine the forecasted number of contacts for a specific period of time. This information is necessary for Blue Pumpkin to determine the staffing schedules. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to have Blue Pumpkin forecast the number of contacts received for a certain future period as this allows them to more accurately predict the incoming contacts and determine staffing requirements.

As per claims 4, 10, and 17, Blue Pumpkin discloses claims 1, 7, and 14. Blue Pumpkin also disclosed calculating the staffing requirement. Blue Pumpkin did not explicitly disclose the step of calculating the staffing requirement for the current period is performed with reference to "ContactsHandled," AHTinSeconds," and SecondsInStatPeriod". However, it is old and well known in the art to determine a staffing schedule using variables such as contacts handled and the time it took for them to be handled. Therefore, it would have been obvious to one of ordinary skill in the art

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at the time of the invention to have named the variables determining the staffing period "ContactsHandled," AHTinSeconds," and SecondsInStatPeriod" as these values are needed to determine the staffing requirements of the contact center.

As per claims 5, 11, 18, 23, 29, and 34, Blue Pumpkin discloses claims 1, 7, 14, 20, 26, and 31. Blue Pumpkin also disclosed calculating the staffing requirement. Blue Pumpkin did not explicitly disclose the step of calculating the staffing requirement for the current period is performed according to the equation:

Staffing Requirement = (ContactsHandled * AHTinSeconds)/SecondsInStatPeriod

wherein: "ContactsHandled" is equivalent to the "contacts to propagate to the current period"; "AHTinSeconds" is the handling time for the contact type; and "Seconds InStatPeriod" is the length in seconds of the current period. However, it is old and well known in the art of call centers to determine a staffing requirement by multiplying the number of contacts handled by the handling time for each contract and dividing by the length of the current period. Therefore, it would have been obvious to one of ordinary skill in the art to used the equation $\text{StaffingRequirement} = (\text{ContactsHandled} * \text{AHTinSeconds}) / \text{SecondsInStatPeriod}$, as it allows Blue Pumpkin to determine how many people need to be staffed in the contact center for a particular period.

As per claims 6, 12, 19, 24, 30, and 35, Blue Pumpkin discloses claims 5, 11, 18, 23, 29, and 34. However, Blue Pumpkin does not explicitly disclose wherein the staffing

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requirement is further divided by the quotient of a maximum occupancy goal percent divided by 100. However, it is old and well known in the art to divide a percent by 100 to determine a value. (for example $.3 \times 100$ is 3%). Therefore, it would have been obvious to have Blue Pumpkin disclose the staffing requirement to further divide by the quotient of a maximum occupancy goal percent divided by 100 as this returns a number, rather than a percentage, to determine the staffing requirement.

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

McDonough et al. (U.S. P.N. 6,070,142) discloses a virtual customer service center.

McDonough et al. (U.S. P.N. 6,115,693) discloses a qualify center for forecasting contact volume.

Castonguay et al. (U.S. P.N. 5,911,134) discloses forecasting events to occur over a certain time period and staffing employees based on the forecasted events.

Bogart et al. (E.P. P.N. 01079039) discloses a call center operation with scoring.

"Siemens Adds E-service and Multi-Media Options to CRM Solution" discloses a multi-media contact center.

McClave and Benson in A First Course in Business Statistics discloses the use of bell curves.

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6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Rebecca Bachner** whose telephone number is 703-305-1872. The examiner can normally be reached on Monday - Friday from 8:30am to 5:00pm. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Tariq Hafiz** can be reached on **(703)305-9643**.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the **Receptionist** whose telephone number is **(703) 308-1113**.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington D.C. 20231

or faxed to:

(703) 305-7687 Official communications; including After Final
communications labeled "Box AF"

(703) 746-7306 Informal/Draft communications, labeled "PROPOSED" or "
DRAFT"

Hand delivered responses should be brought to Crystal Park 5, 2451 Crystal Drive, Arlington, VA, 7th floor receptionist.

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December 3, 2002


TARIQ R. HAFIZ
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 3600